



Jordan University of Science

and Technology

Faculty of Applied Medical Sciences

Department of Rehabilitation Sciences

Study Plan of Master of Clinical Rehabilitation Sciences

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Vision:

To achieve leadership at the local and regional level in education, training and scientific research in the field of rehabilitation sciences and prepare qualified graduates with scientific and practical expertise to meet the needs of the labor market.

Mission:

To develop and disseminate scientific knowledge and build practical experience in the field of rehabilitation sciences in accordance with the university strategy and international quality standards, and contribute to the development of human resources for the needs of scientific development and building the scientific community and scientific research in the field of rehabilitation sciences.

Objectives:

- Prepare graduates qualified to use the latest approaches and techniques in the field of rehabilitation sciences.
- Prepare qualified cadres to work in the academic field and scientific research.
- Providing and developing infrastructure for educational and research laboratories.
- Provide the student with the knowledge and practical skills to work as a member of a multidisciplinary rehabilitation team to design and implement comprehensive individualized rehabilitation programs.
- Meeting the growing needs of Jordanian and regional market of graduates in the field of rehabilitation sciences.
- Provide the student with advanced skill in the application of different therapeutic models in rehabilitation sciences.
- Contribute to the development of medical sciences and rehabilitation sciences locally and regionally.
- Enhancing the value of independent learning, and critical and creative thinking in the field of rehabilitation services.
- Encouraging scientific research in rehabilitation sciences stemming from the needs of society.
- Develop the capacity of therapists to apply evidence-based practice in the field of rehabilitation.

- Development of rehabilitation professions and the ability of physiotherapists and occupational therapists to practice their professions independently.

Learning Outcomes:

- Design and implement autonomously a professional approach based on analysis of complex rehabilitation science knowledge.
- Design, deliver and evaluate effective educational processes adapted or customized to different inter-professional contexts (academic/professional/community) using an effective pedagogical approach
- Provide and disseminate new evidence in accordance with ethics principles using updated and integrated knowledge of research methods
- Manage and organize strategic planning and decision making within the scope of quality assurance, ethical rules, development of the team, and collaboration
- Integrate health advocacy at an individual, community and policy levels to promote citizenship and inclusive development of communities
- Communicates effectively within multidisciplinary clinical or scientific contexts, based on collaborative approach.
- Plan, implement and advocate interdisciplinary healthcare services within deep understanding of health care systems to promote better networking, and comprehensive client care.

Occupational Profiles:

Graduates of JUST-CRS will gain a higher-level skills and knowledge that will enable them to effectively evaluate patients, write autonomously comprehensive treatment plans, and monitor rehabilitation process outcomes. Additionally, graduates will gain a higher-level skills and knowledge in interdisciplinary rehabilitation consistent with national and international standards. Graduates will be equipped with specialized advanced clinical skills in selected areas including neurological and orthopedic rehabilitation. Graduates will be able to design and conduct rigorous clinical research studies serving the Jordanian and Middle Eastern communities. Graduates will professionally lead OT and PT undergraduate clinical training and improving rehabilitation services at their various workplaces. Thus, it is expected that

the program will improve graduates' employability in various settings including academia (i.e. universities and research centers), hospitals, rehabilitation centers, community based rehabilitation, and sport and other specialty clinics. Also, the program will prepare students to pursue PhD degree.

Study Plan of Master Degree of Clinical Rehabilitation Sciences

Numbering and coding system of courses of the study plan.

Course Coding

The following codes are used to designate courses:

Department		Level/year	Field	Sequence
A	B	x	y	z

The Department codes (A, B, C) are as follows:

Code	Department	Code	Department
TDEN	Dental technology	AS	Audiology and speech therapy
PT	Physical therapy	PARA	Paramedics
OT	Occupational therapy	ADS	Allied dental science
OPT	Optometry	LM	Medical laboratory sciences
RA	Radiology technology	CRS	Clinical rehabilitation sciences

Course Numbering

- The Clinical Rehabilitation Sciences courses are tabled and numbered in such a manner to recognize each course regarding its subject area, year or level, and semester offered.
- Ex. CRS xyz: The **CRS** symbol in the course number denotes **Clinical Rehabilitation Sciences** and (xyz) is a 3-digits number:

A. The first digit denotes master level of the course according to student's study plan as follows:

Code	Level
7	Master Level

B. The second digit denotes the course field subject as follows:

Number	Specialization
1	Basic rehabilitation sciences
2	Neurological disorders rehabilitation
3	Musculoskeletal disorders rehabilitation
4	Clinical rehabilitation skills
5	Advanced and innovative management skills
9	Research skills

C. The third digit denotes sequence of semester during which the course is offered according to the study plan. In way that odd numbers are given to the first semesters while even numbers are given to second semesters.

Example: CRS CRS 711 Advanced Theoretical Models of Practice in Rehabilitation Sciences means:

CRS	7	1	1
Clinical rehabilitation Sciences	Level (Master)	Field (Basic rehabilitation sciences)	Sequence (First semester)

Master of Science (M.Sc.) degree in Clinical Rehabilitation Science at JUST is awarded in accordance with the statute stated by JUST regulations for M.Sc. awarding issued by the Dean's Council based on the law for awarding scientific degrees and certifications at JUST after completing (36) credit hours successfully.

The study plan composed of the following:

Classification	Credit hours
Obligatory courses	18
Elective courses	9
Master thesis	9
Total	36

1. Obligatory courses: (18 Credit Hours)

Course No.	Course title	Credit hours	Theoretical	Practical	Teaching method
CRS 711	Advanced Theoretical Models of Practice in	3	2	2	Hybrid
CRS 712	Applied Models in Rehabilitation Sciences	2	2	2	In campus
CRS 741	Educational Approaches in Clinical Rehabilitation	1	1	1	In campus
CRS 742	Evidence-based Clinical Reasoning in Rehabilitation	1	1	1	Hybrid
CRS 791	Research Methods in Rehabilitation Sciences	2	2	1	In campus
CRS 751	Advanced Management & Health Administration	2	2	1	Hybrid
CRS 753	Community Development Programs in Rehabilitation	1	1	1	Hybrid
CRS 793	Applied Biostatistics	2	2	2	In campus
CRS 743	Clinical placement I	2	1	6	In campus
CRS 745	Clinical placement II	2	1	6	In campus
Total		18	15	23	

2. Elective courses: (9 credit hours) selected from the following courses:

Course No.	Course title	Credit hours	Theoretical	Practical	Teaching method
CRS 724	Advanced theories and practice in Neurological Rehabilitation I	2	2	1	In campus
CRS 736	Advanced theories and practice in Orthopedic Rehabilitation I	2	2	1	In campus
CRS 725	Advanced theories and practice in Neurological Rehabilitation II	3	2	2	In campus
CRS 737	Advanced theories and practice in Orthopedic Rehabilitation II	3	2	2	Hybrid
CRS 713	Biopsychosocial Aspects of Rehabilitation Sciences	2	2	1	Hybrid
CRS 731	Advanced Clinical Biomechanics	2	2	1	In campus
CRS 732	Clinical Exercise Physiology	2	2	1	In campus
CRS 756	Special Topics in Rehabilitation Sciences	2	2	1	In campus
CRS 722	Advanced theories and application in motor learning and motor control	2	2	1	In campus
CRS 755	Innovation and Emerging Technologies in Rehabilitation	2	2	1	In campus
CRS 733	Sports Rehabilitation	2	2	1	In campus
CRS 757	Vocational Rehabilitation	2	2	1	In campus
CRS 758	Global Health	2	2	1	In campus
CRS 734	Ergonomics	2	2	1	In campus
CRS 714	Health Promotion	2	2	1	In campus

3. Master Thesis: (total of 9 credit hours) as follows:

Course No.	Course title	Credit hours
CRS 799	Master Thesis	9
CRS 799	Master Thesis	6
CRS 799	Master Thesis	3
CRS 799	Master Thesis	0

Study Plan

FIRST YEAR													
First semester							Second semester						
Course No.	Course name	Total credits	Weekly hours		Prerequisite	Corequisite	Course No.	Course name	Total credits	Weekly hours		Prerequisite	Corequisite
			Theory	Practical						Theory	Practical		
CRS 711	Advanced Theoretical Models of Practice in Rehabilitation Sciences (Hybrid)	3	2	2	--	--	CRS 712	Applied Models in Rehabilitation Sciences (In campus)	2	2	2	CRS 711	--
CRS 741	Educational Approaches in Clinical Rehabilitation Sciences (In campus)	1	1	1	--	--	CRS 793	Applied Biostatistics (In campus)	2	2	2	CRS 791	--
CRS 791	Research Methods in Rehabilitation Sciences (In campus)	2	2	1	--	--	CRS 742	Evidence-based Clinical Reasoning in Rehabilitation Sciences (Hybrid)	1	1	2	--	--
CRS 751	Advanced Management & Health Administration (Hybrid)	2	2	1	--	--	CRS (--)	Elective Course (Hybrid)	2	2	2	--	--

CRS 753	Community Development Programs in Rehabilitation Sciences (Hybrid)	1	1	1	--	--	CRS (--)	Elective Course (Hybrid)	2	2	2	--	--
Total		9	8	6			Total		9	9	7		

SECOND YEAR													
First semester						Second semester							
Course No.	Course name	Total credits	Weekly hours		Prerequisite	Corequisite	Course No.	Course name	Total credits	Weekly hours		Prerequisite	Corequisite
			Theory	Practical						Theory	Practical		
CRS 743	Clinical placement I (In campus)	2	1	6			CRS 799	Thesis (In campus)	9	-	18		
CRS 745	Clinical placement II (In campus)	2	1	6									
CRS (--)	Elective Course (In campus)	2	2	1									
CRS (--)	Elective Course (In campus)	3	2	2									
Total		9	6	15			Total		9	18	-		

Course Description

CRS 711 Advanced Theoretical Models of Practice in Rehabilitation Sciences (3 Credit Hours):

The aim of this course is to ensure an understanding of ethical standards, evidence based and multifactorial clinical reasoning. Additionally, the course will help the students to develop rehabilitation strategies according to the community needs as well as it provides an overview of the field of rehabilitation science process across the life span.

CRS 712 Applied Models in Rehabilitation Sciences (2 Credit Hours):

This course provides the students with methods of using reliable and valid outcome measures and to comprehensively evaluate the rehabilitation patient needs. Students are prepared to plan and evaluate outcomes of a comprehensive treatment plan that are designed based on models of practice such as centered- client model or International Classification of Function, disability and Health (ICF) in interdisciplinary setting.

CRS 741 Educational Approaches in Clinical Rehabilitation Sciences (1 Credit Hour):

This course provides the students with the opportunity to practice designing and delivering an educational process in inter-professional context. The course directs students to use effective professional communication skills as clinician and educator/supervisor role. The course trains students to customize learning and teaching in different environments and with different individuals (students, patients, the community, staff). Additionally the course will provide students with skills to use information and Communication Technologies (ICT) and Open Educational Resources (OER) effectively in the creation and delivery educational material. Professional clinical courses building including a full course portfolio building (lectures, exams, assignments, rubrics, and syllabus) will be introduced. Educational quality assurance techniques will be also discussed including checking learning outcomes fulfillment, students' feedback strategies, and exams analyses.

CRS 742 Evidence-based Clinical Reasoning in Rehabilitation Sciences (1 Credit Hour):

This course focuses in enabling students to critically evaluate scientific information and integrate the best available evidence to clinical interdisciplinary practice. This course emphasizes the importance of using best current evidence in a lifelong practice. Application of clinical reasoning in evaluation, designing treatment plan, and application of plan of care will be emphasized in this course.

CRS 791 Research Methods in Rehabilitation Sciences (2 Credit Hours):

This module aims to advance students' knowledge of rehabilitation research design and research methods, through critical analysis of research in the field rehabilitation sciences. The module will provide opportunities for students to explore and critique methodologies commonly used to advance rehabilitation practice. Students will be given opportunities to develop skills in conducting systematic literature reviews, critical appraisal, analyzing quantitative and qualitative data, research question development and design.

CRS 751 Advanced Management & Health Administration (2 Credit Hours):

This course provides the students with advanced knowledge of models of management and health administration that allows them to demonstrate effective and efficient managerial decision making in all contexts of rehabilitation settings within a sound ethical framework. Course will also help the students to build their capacity in team development within an interdisciplinary context.

CRS 753 Community Development Programs in Rehabilitation Sciences (2 Credit Hours):

This course will provide an opportunity to practice skills in promoting and increasing awareness of rehabilitation professional services to community. The course will also help the students to demonstrate skills in conducting a need assessment in the access to services for vulnerable groups in the community as well as designing, implementing and monitoring intervention plans for inclusive development of community.

CRS 793 Applied Biostatistics (2 Credit Hours):

This module will enable the students to develop their skills in translating scientific questions into appropriate hypotheses, selecting and applying appropriate statistical methods, developing analysis plans, interpreting and critiquing research data from published literature and evaluate the significance or impact of public health research and interventions.

CRS 743 Clinical placement I (2 Credit Hours):

The course provides clinical field work to increase knowledge, skills and attitudes of students in rehabilitation sciences within interdisciplinary context. The students through this course will be able to integrate advance knowledge and the skills to clinical field, to apply clinical models in designing rehabilitation program and to practice holistic and client centered models in patient management.

CRS 745 Clinical placement II (2 Credit Hours):

The course provides clinical field work to increase knowledge, skills and attitudes of students in rehabilitation sciences within interdisciplinary context. The students through this course will be able to integrate advance knowledge and the skills to clinical field, to apply clinical models in designing rehabilitation program and to practice holistic and client centered models in patient management.

CRS 724 Advanced theories and practice in Neurological Rehabilitation I (2 Credit Hours):

The course is designed to present advanced theoretical and practical aspects of neurological pediatric rehabilitation. Evidence-based information and practice for special and advanced pediatric cases will be provided. Clinical assessments, clinical reasoning, clinical therapeutic skills for the development of safe and effective rehabilitation programs and exercise prescription for children with neurological conditions will be included.

CRS 736 Advanced theories and practice in Orthopedic Rehabilitation I (2 Credit Hours):

The course develops the existing knowledge of musculoskeletal rehabilitation theory and practice to an evidence-based practice level. The course provides advanced clinical assessment using valid and reliable outcome measures, and clinical reasoning, and differential diagnosis in interdisciplinary orthopedics rehabilitation. The course explores integration of patients' evaluation, and patients' prognosis and individualized rehabilitation needs.

CRS 725 Advanced theories and practice in Neurological Rehabilitation II (3 Credit Hours):

The course develops the existing knowledge of neurological rehabilitation theory and practice for adults to an evidence-based practice level. Advanced clinical assessment, clinical reasoning and clinical therapeutic skills to the development of safe, effective & specific rehabilitation programs and exercise prescription for adults with neurological disorders will be also included in the course.

CRS 737 Advanced theories and practice in Orthopedic Rehabilitation II (3 Credit Hours):

This course build on what students have learnt in Advance Theories and Practice in Orthopedics Rehabilitation I. This course emphasize on establishing evidence-based comprehensive interdisciplinary treatment plan in orthopedics rehabilitation. The

course explores therapeutic exercises, manual therapy techniques, and other clinical therapeutic skills drawn from scientific evidence for development of safe, effective, comprehensive and individualized rehabilitation programs.

CRS 713 Biopsychosocial Aspects of Rehabilitation Sciences (2 Credit Hours):

This course provides a broad basis for determining the biological, psychological and social factors affecting disease progress and severity, and offers approaches to increase the success of the rehabilitation by the means of comprehensive and holistic approach.

CRS 731 Advanced Clinical Biomechanics (2 Credit Hours):

This course builds upon what students gained in the undergraduate study of describing and measuring human normal and abnormal movement. The course provides students the opportunity to study advanced techniques in the analysis of mechanical factors related to human movement and posture, and integrate their understanding of the neural control of such movement. This course explores the application of biomechanics to pathological disorders of musculoskeletal and neurological system.

CRS 732 Clinical Exercise Physiology (2 Credit Hours):

The module aims to introduce students to the knowledge-based, clinical and practical skills necessary for planned and strategic management of safe effective exercise prescription for clinical groups.

CRS 756 Special Topics in Rehabilitation Sciences (2 Credit Hours):

This course covers special topics of interest in rehabilitation sciences that are usually not fully covered in classical clinical teaching. This course discusses current emerging subspecialties in rehabilitation sciences and their fast growing role in health care.

CRS 722 Advanced theories and application in motor learning and motor control (2 Credit Hours):

This course will give students the opportunity to advance knowledge related to the theories and practices associated with motor skill development, acquisition, and performance. Movement analysis principles are used to explain the neuromotor control processes that are fundamental for skilled performance in everyday functional behaviors.

CRS 755 Innovation and Emerging Technologies in Rehabilitation (2 Credit Hours):

The course aims to get an overview of current novel tools used within the rehabilitative setting, and provide the basic understanding as to how to develop one's own innovative tools which can be used in clinical practice.

CRS 733 Sports Rehabilitation (2 Credit Hours):

This course enables the students to design and perform evidence based clinical reasoning in the field of sport rehabilitation. Advanced clinical assessment and clinical therapeutic skills to the development of safe, effective rehabilitation programs and exercise prescription in sport rehabilitation settings will be introduced. The concept of evaluating social responsibilities associated with sport, exercise and society will be emphasized.

CRS 757 Vocational Rehabilitation (2 Credit Hours):

This course will enable students to select, modify and apply appropriate theories and models of practice in developing vocational rehabilitation approaches for person with diverse conditions. Overall the course will enable students to assess the barriers and plan as well as implement interventions for person with diverse conditions to access, maintain or return to employment.

CRS 758 Global Health (2 Credit Hours):

This course explores the complex relationships that drive and power global health development. The overall aim of the course is to equip students with the analytical and methodological skills to address the multifaceted challenges of global health whether they are in high-income or low-income countries. Subjects such as worldwide health improvement (including mental health), reduction of disparities, and protection against global threats that disregard national borders will be discussed. This course also aims to address the challenges posed by infectious and epidemiological diseases. The Course encourages adopting World Health Organization (WHO) publication and terminologies and integrating them in rehabilitation.

CRS 734 Ergonomics (2 Credit Hours):

This course will enable students to relate ergonomics into rehabilitation sciences by analyzing and modifying the effect of environment in occupational performance. Students will be able to relate the applicability of ergonomics In rehabilitation sciences, analyze the effect of the environment in occupational performance, describe the principles of adapting the environment to improve occupational performance, integrate ergonomics into their interventions in rehabilitation and develop innovative ergonomic solutions.

CRS 714 Health Promotion (2 Credit Hours):

The aim of the course is to deepen the student's understanding of various health promotion models that enable the student to describe a holistic definition of biopsychosocial determinants of health, working environment legislation, knowledge of theories and methods of interventions in health promotion on individual and groups and the risks associated with the working environment. Additionally students will be able to apply health promotion approaches in interdisciplinary rehabilitation settings.

CRS 799 Thesis (9 Credit Hours):

Thesis will draw on the knowledge and skills obtained within research methods and design, and applied biostatistics. Under supervision of a faculty member, the student will undertake a novel research project in a chosen area of clinical rehabilitation. The candidate must submit the completed thesis to a committee and successfully defend it according to the Graduate Studies regulations at Jordan University of Science and Technology.